Detection of Chlamydophila Abortus from Ovine Abortion by Cell Culture and PCR

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Background & Objectives: Enzootic abortion is one of the most common infectious diseases in sheep which caused abortion and stillbirths. It causes the severe economic losses for livestock industry. The causative agent, *Chlamydophyla abortus*, is a gram-negative obligate intracellular bacterium. Several diagnostic methods have been used for detection of Chlamydophila organisms.The aim of this study was to investigate the presence of Chlamydial organisms in tissues of aborted ovine fetuses by PCR and cell culture.

Methods: The number of 168 tissue samples (placenta, liver, kidney, brain and lung) from 54 aborted fetuses were collected for PCR methods by using primers for amplification of pmp genes. Sixty three out of 168 tissue samples from 32 aborted fetuses were used for detection of chlamydial organisms using McCoy cells. The supernants of centrifuged tissue samples in SPG (sucrose/phosphate/glutamate) medium were used as inoculums. The growth medium plates containing cover-slips were removed and replace by the inoculums. After incubation for 2 days, the cover-slips were fixed in methanol and stained with Giemsa.

Results: Thirty six out of 168 tissue samples from 22 borted fetuses were positive for the presence of pmp genes. Among 63 samples which were used for cell culture, 8 of them were positive for the presence of Chlamydial intracytoplasmic inclusions. Only five of these eight samples were positive by PCR Methods.

Conclusion: Results showed that the application of PCR for routine diagnosis of *Chlamydophila abortus* in tissue samples from aborted fetoe was more sensitive and rapid than cell culture assay. However, cell culture is still valuable in a few research establishments.

Keywords: *Chlamydophila abortus*; Abortion; Cell Culture; PCR